

Lanny Creedle

July 25, 2013

GETS Education Program

WELCOME

Review of last month

Topic: Servers

Learning Objectives

- Understand Server services provided by GETS
- Understand the GETS charges for Servers
- Become familiar with the primary processes and tools to manage an agency's usage of Servers

Learning Objectives Evaluation

- You have copies of the evaluation summary and attendance report
- Please take the time to complete these evaluations at the end of each session, we want to ensure we are meeting the learning objectives

Additional GETS Education News

- **The additional GETS Dispute Process education session you requested will be held August 28, 2013, 10 to 11am**
 - Trinity Ground Floor Conference Rooms or Webinar
 - Appointments with details will be sent on July 31
- **GETS Education 2 – Extending GETS Education to Agency Staff**
 - You have a handout with details
 - GTA is offering the GETS Education Sessions to your agency staff
 - Email participants a web link to get the slides (regular and audio enhanced with voice-over)
 - Follow with a 1-hour conference call to answer session content questions

GETS Education 2 - Extending GETS Education to Agency Staff

Topic	Email with slide availability sent to participants	Ask Questions Conference Call with GETS Subject Matter Experts (Fridays – 1 to 2pm)
Invoice Overview	Thurs, July 25	Fri Aug 9
Transformation/How to Work with GTA	Fri, Aug 9	Fri, Aug 30
EUC/Service Desk	Fri, Aug 30	Fri, Sept 20
Servers	Fri, Sept 20	Fri, Oct 4
Storage	Fri, Oct 4	Fri, Oct 18
Mainframe	Fri, Oct 18	Fri, Nov 1
Voice – LAN/WAN	Fri, Nov 1	Fri, Nov 15

- If you want to add any of your staff to the invite list – please contact me with additional Name(s) and Email Address**

2013 GETS Education Program

Month	Topic	Month	Topic
Feb 28	Introduction	Aug 22	Mainframe
March 28	Invoice Overview	Sep 26	Voice
April 25	Transformation & How to work with GTA	Oct 24	LAN/WAN
May 23	EUC and Service Desk	Nov	No training
June 27	Servers	Dec	No training
July 25	Storage		

Dean Johnson

Kevin Schultz

July 25, 2013

GETS Education Program

STORAGE

Ensuring our common understanding

- **The learning objectives for this session will ensure you:**
 - Understand Storage services provided by GETS
 - Understand the way charges are calculated in a GETS invoice for Storage
 - Become familiar with the primary processes and tools to manage an agency's usage of the Storage Resource Units
- **After this session, you will be asked to complete a feedback form demonstrating your understanding of the material**

Ensuring our common understanding

- **We will review your feedback**
 - If there is a group need for information, we will incorporate it into the curriculum or have an additional training session
 - If the need is specific to an individual or agency – we will schedule a one-on-one session to ensure you get the information you need
- **We are committed to your success!**

Agenda

- **Better understanding of your GETS Storage services**
- **Understand the Resource Units and charges for the Storage Tower**
- **Understand how to leverage primary processes and tools to better manage your service usage in this tower**

The GETS Model: A Paradigm Shift

In 2009, the state moved from buying and maintaining hardware to purchasing IT *services*.

GETS model is consumption-based.

The agency pays for only the services it consumes.

The agency is enabled and empowered to own and manage consumption of services.

Storage Resource Units on the Invoice

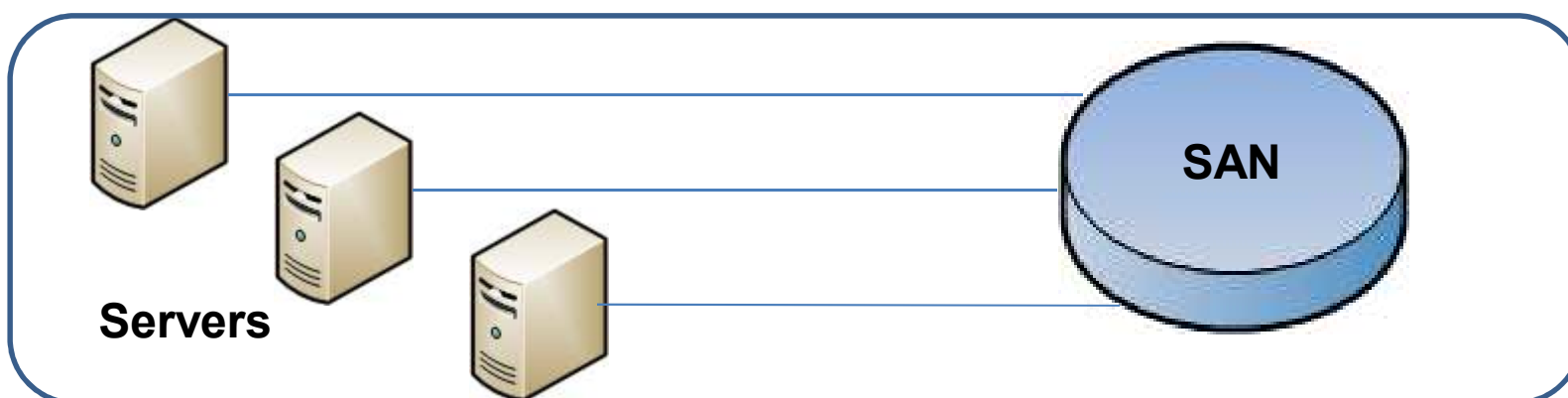
- Storage Resource Units can be understood in two parts

Agency Totals for: GA01 State of Georgia

SAN	GTA				
	Units	Unit Rate	Amount	Admin Fee	Charge
Tier 1 - Mission Critical - High Speed	20,603.0000	2.9192	60,144.28	5,124.29	65,268.57
Tier 2 - Business Critical	817,471.6629	0.7661	626,265.11	53,357.79	679,622.90
Tier 3 - Archive - Online, Long Term Retention	31,365.6000	0.5515	17,298.14	1,473.80	18,771.94
Application/Utility Tapes in Storage (Active)	11,425.4799	6.2549	71,465.26	6,088.84	77,554.10
Application/Utility Tapes in Storage - Virtual Tape Storage	45,917.2880	1.0480	48,121.30	4,099.94	52,221.24
Application/Utility Tapes in Storage - Archived	11,882.0605	3.3352	39,629.04	3,376.39	43,005.43
Backup Retention - DR Offsite	21,079.1298	4.1624	87,739.80	7,475.43	95,215.23
Backup and Recovery Services	251,114.5872	1.0362	260,204.89	22,169.46	282,374.35
Backup					

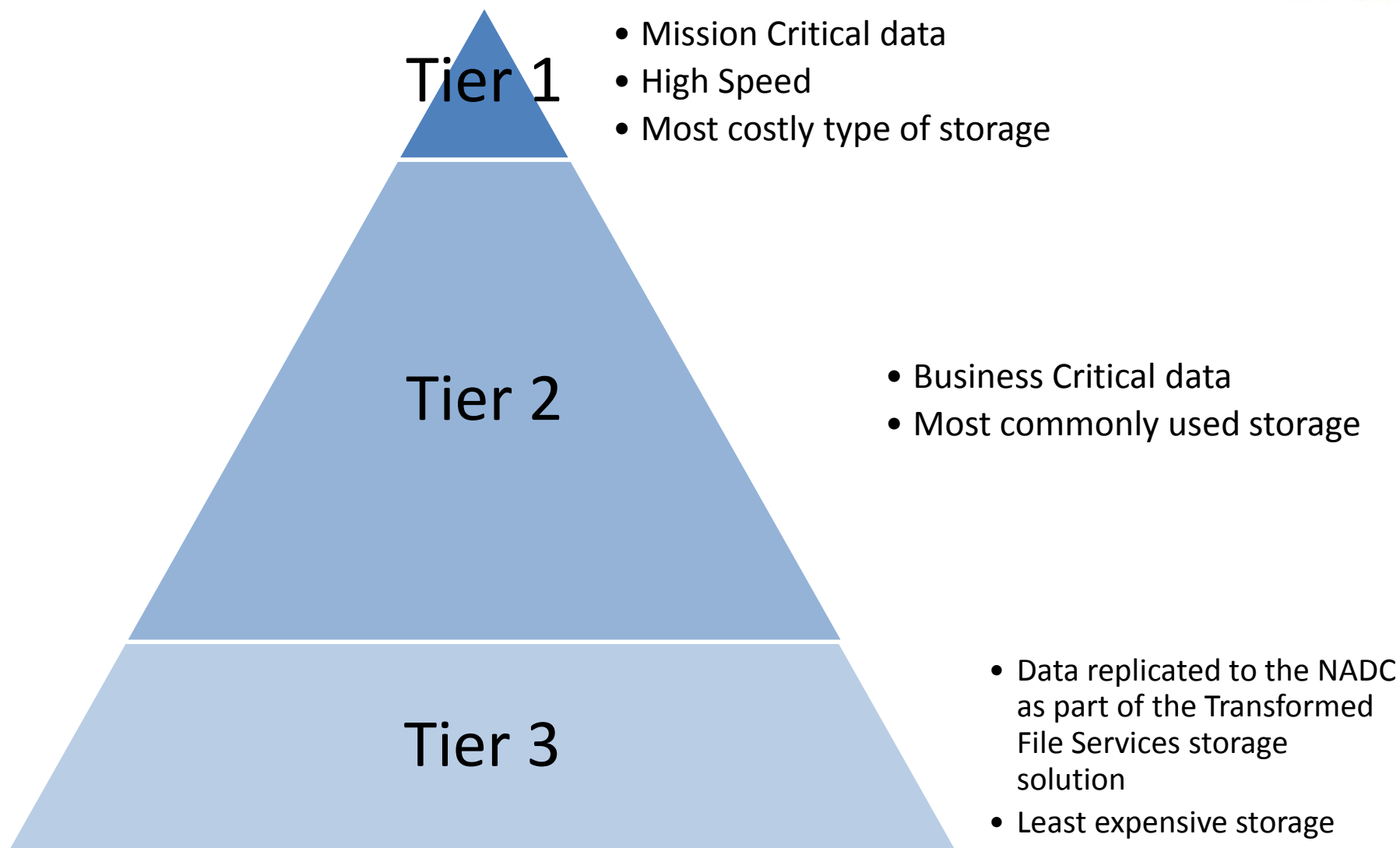
What is SAN?

- **SAN is the acronym for Storage Area Network**
- **A Storage Area Network is used to store data utilized by application and file servers daily by gigabyte (GB)**



- **Why is SAN Tiered?**
 - Each Tier is purposed for a different business requirement
 - Business requirements determine the level of storage needed
 - Each successive Tier decreases in cost and level of service

SAN Resource Units



SAN Transformation: Before and After GETS



Before GETS	After GETS
Storage spread across multiple sites; data center housing SAN was a central point of failure	Storage is centralized in the North Atlanta Data Center (NADC) with full redundancy
Monitoring varied by agency	Enterprise “phone home” hardware monitoring
Storage options limited	Tiered storage available based on agency’s performance requirements
Storage hardware refresh limited to capital expenditures when available; Most storage hardware was at end of life/out of warranty	Storage hardware refreshed every five years
Remote sites storage was local with no monthly charges	Storage in the NADC for Files Services is a monthly charge
Usable space is billed	Allocated space is billed

Storage Resource Units on the Invoice

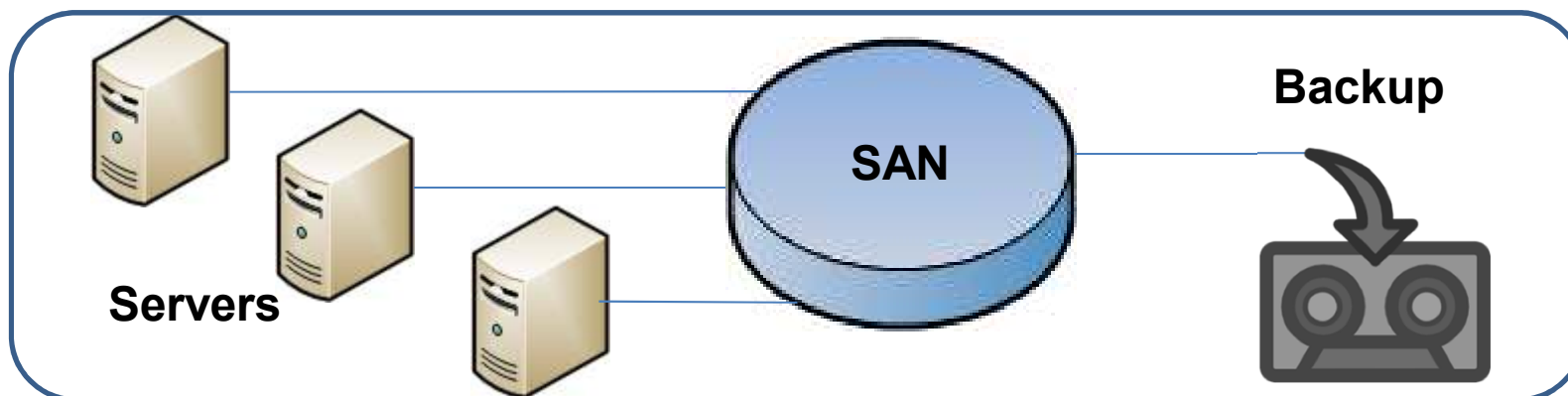
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Backup					

What is Backup?

- Backup is the daily, weekly, or monthly occurrence of copying SAN data to tape for the preservation of data and the ability to restore lost data



Backup Resource Units – Legacy



Application/Utility Tapes in Storage (Active) - Tapes currently in rotation, billed by tape cartridge



Backup Retention DR Offsite – Tapes stored offsite, billed by tape cartridge



Application/Utility Tapes in Storage - Virtual Tape Storage– Tapes created from hard drive storage of SAN, billed by GB



Application/Utility Tapes in Storage - Archive – for retention purposes, billed by tape cartridge

Backup Resource Units – Legacy

Questions you may have...

- **Does every active tape also have a backup retention offsite charge?**
- **Does every agency get billed for Virtual Tape Storage (VTS)?**
- **Does every archived tape also get a backup retention offsite charge?**

Backup Resource Units – Legacy

Possible Billing Scenarios

Active

Application/Utility
Tapes in Storage
(Active)

Backup Retention
– DR Offsite

Archive

Application/Utility
Tapes in Storage -
Archive

Backup Retention
– DR Offsite

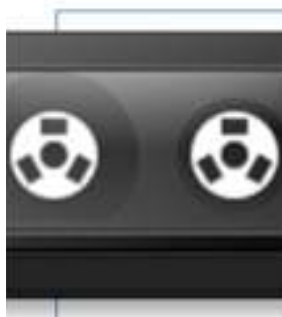
Extended Backups

Application/Utility
Tapes in Storage -
Virtual Tape Storage

Application/Utility
Tapes in Storage
(Active)

Backup Retention
– DR Offsite

Backup Resource Units – Transformed



Backup and Recovery Services - data charged per GB



Tape Archive – platform independent retention charged per GB

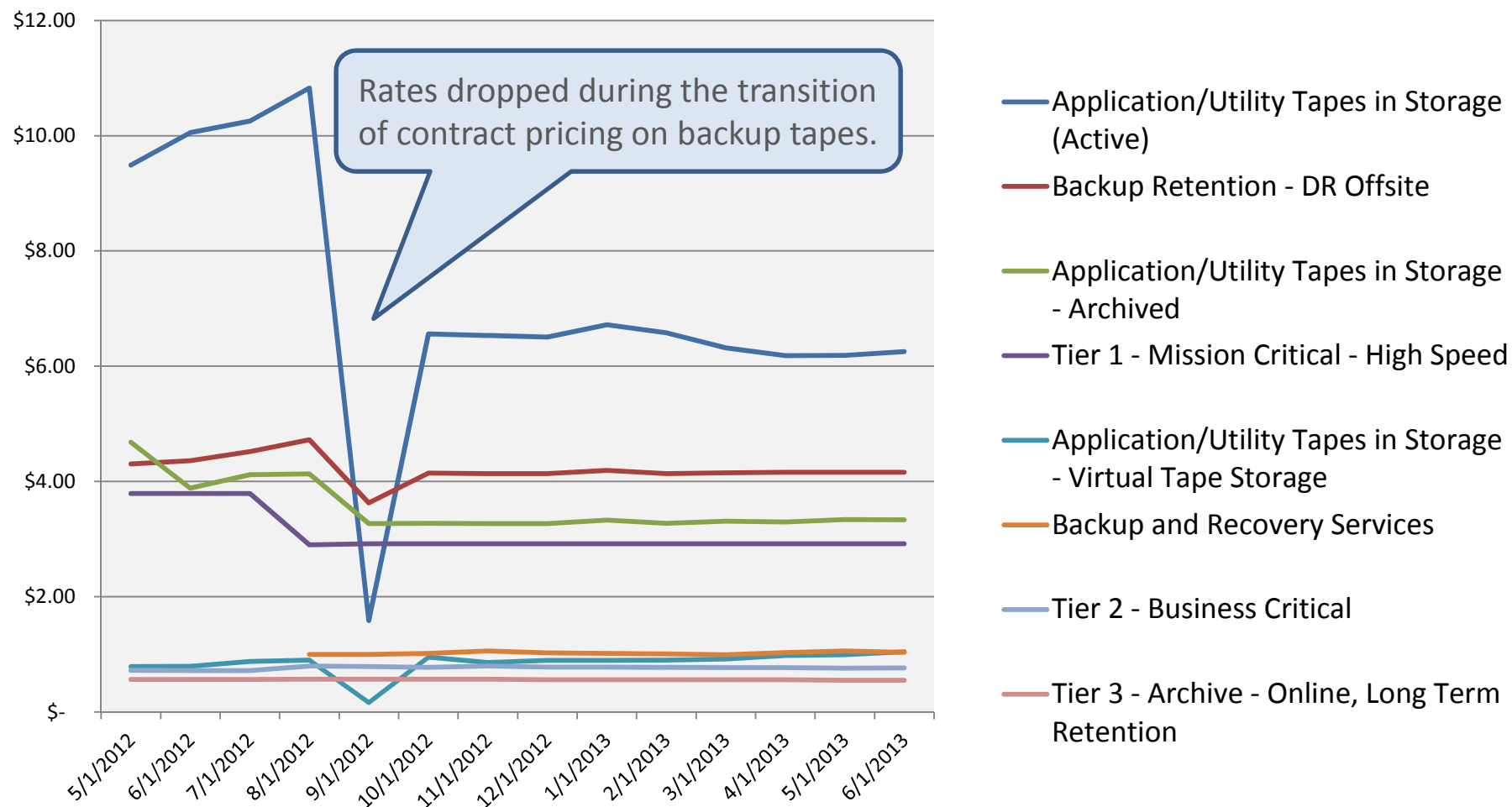
Backup Transformation: Before and After GETS



Before GETS	After GETS
Agencies had multiple backup platforms	Once transformed, agencies will use one platform billed as “Backup and Recovery Services”
Inconsistent Off-site tape storage	Formalized process for tape transport and retrieval
Backups were managed locally	Backups managed by IBM with “Backup and Recovery Services” in the NADC and Remote Data Centers
Restoration of archived tape data limited to availability of original backup solution/platform	Data restoration from archives are platform independent
The amount of backup volume is unclear because backup measured by GB and Tape Cartridge	All backups measured by GB (uncompressed)

Rate History - Storage

In general, rates are stable.



Managing Storage Consumption

- **Storage can be added, increased, and removed by the Agency through OrderNow! online service catalog**
- **Upcoming streamlined process improvements:**
 - Service Catalog will be changed to include storage deletion (effective Aug 5th)
 - Change Requests for storage changes will no longer be required (effective Aug. 5th)
- **Request for Solution (RFS) – in *rare* cases, an agency may need to submit an RFS to increase storage (e.g. legacy equipment at capacity, request requires hardware that is not typically available)**

Best Practices in Consumption Management

- **Select the proper tier for the business need**
- **Do not overestimate the disk space a server will need**
- **Determine and enforce data retention requirements**
- **Store only agency-related data**
- **Monitor personal folders to ensure that they are consuming an appropriate amount of space**
 - Monitor data to identify and remove personal games, music (e.g. MP3) files, photograph (e.g. JPEG, GIF) files, video files, etc.
- **Eliminate data redundancy – same data stored in different folders**



Best Practices in Consumption Management

- One of the Agency's key roles: *Reconcile your bill*
- Storage inventory for billing is taken on the 15th of the month

Agency Totals for: GA01.98000 Georgia Technology Authority

	Units	Unit Rate	Amount	GTA Admin Fee	Charge
Tier 2 - Business Critical	25,875.2045	0.7661	19,823.01	1,688.92	21,511.93
Tier 3 - Archive - Online, Long Term Retention	2,919.3500	0.5515	1,610.02	137.17	1,747.19
Application/Utility Tapes in Storage (Active)	909.4057	6.2549	5,688.25	484.64	6,172.89
Application/Utility Tapes in Storage - Virtual Tape Storage	1,725.4470	1.0480	1,808.27	154.07	1,962.34
Application/Utility Tapes in Storage - Archived	448.8302	3.3352	1,496.93	127.54	1,624.47
Backup Retention - DR Offsite	903.5114	4.1624	3,760.78	320.42	4,081.20
Backup and Recovery Services	2,084.9336	1.0362	2,160.41	184.07	2,344.48

Reports

- **Server and Storage Report Group Invoice Detail**
 - Report designed with agency input
 - Currently emailed to GETS agencies
 - Pivot tables included in Excel reports for ease of analysis
 - Includes these details:

SAN

- Units
- Server Host Name
- Usage Date
- Cost Center
- Array Name
- Array Type
- Array Model

Backup - Legacy

- Units
- Server Host Name
- Usage Date
- Cost Center
- Dataset Name
- Volume/Serial No.

Backup - Transformed

- Units
- Server Host Name
- Usage Date
- Cost Center

How to Address Discrepancies

What if the agency discovers a discrepancy in the detail of its Storage Resource Units?

- If the agency identifies a discrepancy, its Asset Manager uses the “Change an Attribute to an existing Asset” product in the OrderNow! online service catalog to change Asset Attributes in Maximo

What if the agency identifies resource units incorrectly assigned to the agency?

- Submit a dispute to chargebackadmin@gta.ga.gov with the required documentation

GTA's Role in Storage Management

- **Governance of Storage Tower**
 - Process improvement, verification, and reporting
 - Oversight of capacity planning
 - Oversight of change process
 - Service level agreement (SLA) validation and management
 - Transparency in total cost of services, negotiating competitive rates
- **Dispute Resolution**
 - **Customer Relationship Manager (CRM):** *Single* point of escalation
 - chargebackadmin@gtga.ga.gov
- **Empowering Agencies with knowledge**

Storage Consumption Management Summary

The Agency is enabled and empowered to perform consumption management for storage:

- **Select the proper tier for the business need (data and performance)**
- **Ensure stored data is agency-related**
- **Eliminate data redundancy**
- **Right-size storage allocation**
- **Determine and enforce data retention requirements**

Questions???

Preview of What's Ahead

- **Next Education Topic: Mainframe**
- **Learning objectives:**
 - Better understanding your GETS services
 - Knowing the charges (Resource Unit) for your GETS services
 - Knowing how to leverage processes and tools to better manage your service usage

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Close



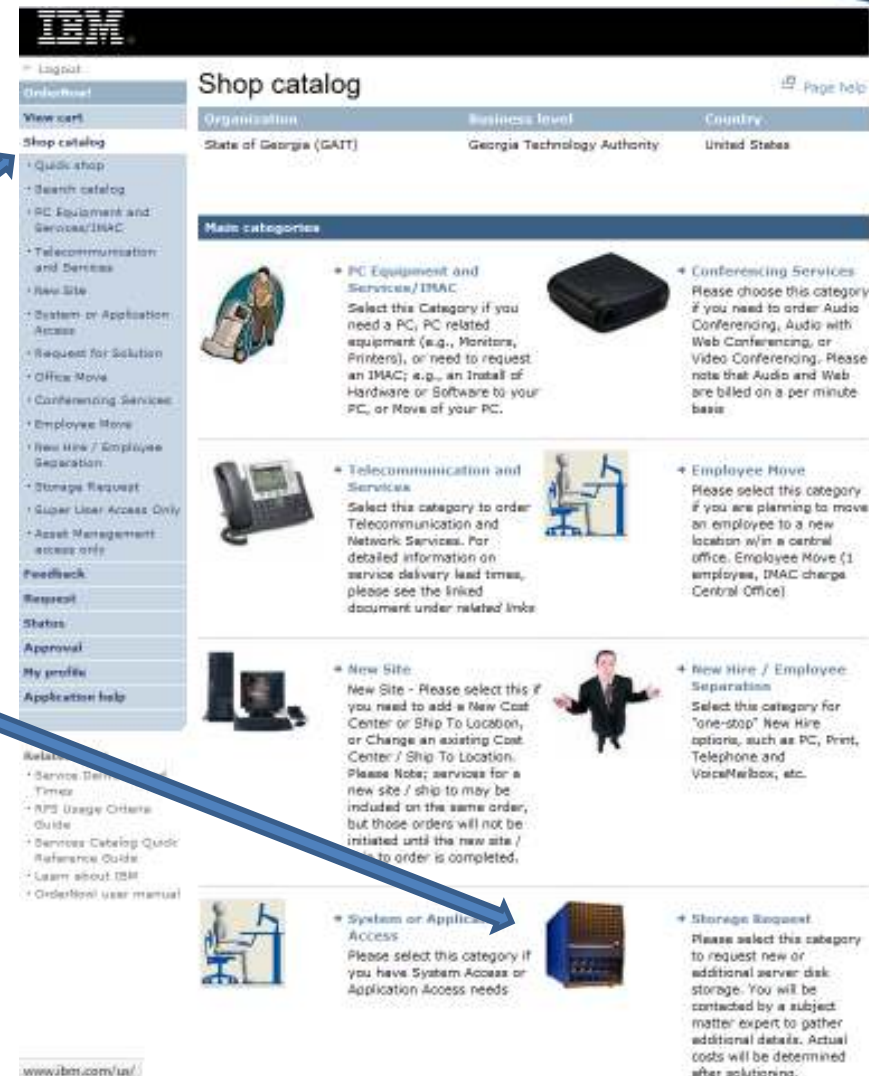
- **Please complete your Learning Objectives Evaluation**
- **Next GETS Education Session – August 22, 2013**
 - Mainframe

ADDENDUM

Using OrderNow! To Request Changes to Storage




- Go to OrderNow! Online Service Request Tool
 - Enter OrderNow!
 - Click on **Shop Catalog** from the OrderNow! menu
 - Click on **Storage Request** from the Main Categories



Using OrderNow! To Request Changes to Storage



- Select Storage Request
- Click on Add to Cart

- 

Contact

Using OrderNow! To Request Changes to Storage

A screenshot of the IBM OrderNow! "Storage Request" form. The form is displayed on a dark blue header with the IBM logo. On the left, there is a navigation menu with links: Logout, OrderNow!, View cart, Shop catalog, Feedback, Request, Status, Approval, My profile, and Application help. Below the menu is a "Related Links" section with links to Service Delivery Lead Times, RPS Usage Criteria Guide, Services Catalog Quick Reference Guide, Learn about IBM, and OrderNow! user manual. The main form area is titled "Storage Request" and contains several sections: "Organization" and "Business level" (pre-filled with "State of Georgia (GAIT)" and "Georgia Technology Authority" respectively), a "Response entry" section with "Save" and "Cancel" buttons, "Project Information" with fields for "Project/Application Name", "Business Justification", "Data Ownership (Who owns the data?)", and a "Type of Request (If Known)" dropdown menu, "Technical/Application Contact" with fields for "Name", "Dept. Name", "Phone #", and "E-Mail", and "Secondary Contact" with fields for "Name", "Dept. Name", "Phone #", and "E-Mail". At the bottom of the form are "Save" and "Cancel" buttons.

- Fill out these mandatory fields
 - Project/Application Name
 - Business Justification
 - Data Ownership
 - Contact Name
 - Dept. Name
 - Phone #
 - E-Mail
- Click Save

Using OrderNow! To Request Changes to Storage



- Return to View Cart and Checkout

IBM

← Logout

OrderNow!

View cart

Page help

Organization	Business level	Country
State of Georgia (GAIT)	Georgia Technology Authority	United States

Cart contents

Description	Qty	Tot	Item price	Total
<input type="checkbox"/> Storage request	1			
Storage Request				
Mfr part #: IMAC19	1	1	0.00 USD	0.00 USD
Service information needed				
Total:				0.00 USD
Request total:				0.00 USD

Shop catalog Go

For selected items:

Group items Delete items Update quantity

Save in progress Cancel Checkout

Prices DO NOT include shipping charges or applicable taxes.

Contact